

The following claims are presented for examination:

1. (previously presented) A tubular conduit comprising:
a tubular portion comprising an inside and an outside and being made from a flexible material;
an axially extending external helical formation located around the outside of the tubular portion for supporting the tubular portion; and
an axially extending internal helical protrusion located around the inside of the tubular portion for imparting a helical flow to a fluid passing through the tubular portion, having a different helix angle from the external helical formation.

2. (previously presented) A tubular conduit according to claim 1 for use as a graft.

Claims 3-39 (canceled)

40. (previously presented) A tubular conduit according to claim 2 wherein the graft is a vascular graft

41. (previously presented) A tubular conduit according to claim 1 wherein the internal helical protrusion comprises a section of the tubular portion deformed by an axially extending deformation helix.

42. (previously presented) A tubular conduit according to claim 41 wherein the axially extending deformation helix is made from polyurethane.

43. (previously presented) A tubular conduit according to claim 41 wherein the axially extending deformation helix is sintered to the flexible material of the tubular portion.

44. (canceled)

45. (previously presented) A tubular conduit according to claim 1 wherein the helix angle of the external helical formation is greater than the helix angle of the internal helical protrusion.

46. (previously presented) A tubular conduit according to claim 1 wherein the helix angle of the internal helical protrusion is between 8° and 20°.

47. (previously presented) A tubular conduit according to claim 1 wherein the helix angle of the external helical formation is greater than 50°.

48. (previously presented) A tubular conduit according to claim 47 wherein the helix angle of the external helical formation is between 65° and 80°.

49. (previously presented) A tubular conduit according to claim 1 wherein the tubular portion is made from ePTFE.

50. (previously presented) A tubular conduit according to claim 1 wherein the external helical formation is made from polyurethane.

51. (previously presented) A tubular conduit according to claim 1 wherein the inside of the tubular portion has a carbon coating.

52. (previously presented) A tubular conduit according to claim 1 wherein the external helical formation is sintered to the flexible material of the tubular portion.

53. (currently amended) A method of making a tubular conduit in accordance with claim 1, the method comprising: comprising the steps of:

(a) providing ~~[[a]] the tubular portion comprising an inside and an exterior and being made from a flexible material;~~

(b) flowing a moulding liquid in an axially extending, helical form around the exterior of the tubular portion; and

(c) solidifying the moulding liquid.

54. (previously presented) A method according to claim 53 wherein step (b) comprises the step of flowing a moulding liquid in two axially extending helical forms around the exterior of the tubular portion.

55. (previously presented) A method according to claim 54 wherein the two helical forms each has a different helix angle.

56. (previously presented) A method according to claim 53 wherein step (b) comprises: (i) deforming the tubular portion so as to provide an internal helical protrusion on the inside of the tubular portion and a corresponding external helical groove; and (ii)

flowing the moulding liquid into the external helical groove to form an axially extending helical form.

57. (previously presented) A method according to claim 56 wherein step (b) comprises the step of flowing a moulding liquid in two axially extending helical forms around the exterior of the tubular portion; and

wherein the two helical forms each has a different helix angle; and

wherein the helix angle of the moulding liquid flowed into the external helical groove is less than the helix angle of the other axially extending helical form.

58. (previously presented) A method according to claim 56 wherein the helix angle of the moulding liquid flowed into the external helical groove is between 8° and 20°.

59. (previously presented) A method according to claim 53 wherein step (b) comprises locating the tubular portion over a mandrel; and encasing the tubular portion within a mould such that the tubular portion is sandwiched between the mandrel and the mould.

60. (previously presented) A method according to claim 56 wherein step (b) comprises locating the tubular portion over a mandrel; and encasing the tubular portion within a mould such that the tubular portion is sandwiched between the mandrel and the mould, the mandrel having an axially extending helical channel on its surface and wherein step (i) further comprises the step of introducing the moulding liquid between the tubular portion and the mould such that the moulding liquid deforms the tubular portion by pressing the tubular portion into the helical channel on the mandrel to provide the internal helical protrusion.

61. (previously presented) A method according to claim 60 further comprising, between the steps of locating of the tubular portion over the mandrel and encasing the tubular portion within the mould, the step of: pushing the tubular portion at least partially into the helical channel on the mandrel.

62. (previously presented) A method according to claim 60 wherein the step of introducing the moulding liquid comprises injecting the moulding liquid into the mould above the helical channel in the mandrel.

63. (previously presented) A method according to claim 59 wherein the mould has an axially extending helical channel about its inside surface and wherein step (b) further comprises the step of introducing the moulding liquid between the tubular portion and the mould such that the moulding liquid flows into the helical channel in the mould.

64. (previously presented) A method according to claim 63 wherein the helix angle of the helical channel in the mould is greater than 50°.

65. (previously presented) A method according to claim 64 wherein the helix angle of the helical channel in the mould is between 65° and 80°.

66. (previously presented) A method according to claim 53 further comprising, between steps (b) and (c), the step of sintering the moulding liquid onto the flexible material of the tubular portion.

67. (previously presented) A method according to claim 53 wherein step (b) is carried out between 600 and 800 kPa and between 170 and 210°C.

68. (previously presented) A method according to claim 67 wherein step (b) is carried out at 689 kPa and 190°C.

69. (previously presented) A method according to claim 53 further comprising the step of coating the inside the tubular portion with carbon.

70. (previously presented) A method according to claim 53 wherein the moulding liquid is polyurethane.

71. (previously presented) A method according to claim 53 wherein the flexible material is ePTFE.

72. (previously presented) A mould for providing a helical formation onto a tubular conduit comprising:

a mandrel having an outer surface on which the tubular conduit is locatable, the mandrel having an axially extending helical channel on its outer surface; and

a moulding block having a bore for receiving the mandrel with the tubular conduit located thereon.

73. (previously presented) A mould according to claim 72 wherein the mandrel has an axially extending helical channel on its inner surface.

74. (previously presented) A mould according to claim 73 wherein the helix angle of the helical channel on the bore is different from the helix angle of the helical channel on the mandrel.

75. (previously presented) A mould according to claim 74 wherein the helix angle of the helical channel on the bore is greater than the helix angle of the helical channel on the mandrel.

76. (previously presented) A mould according to claim 72 wherein the helix angle of the helical channel on the mandrel is between 8° and 20°.

77. (previously presented) A mould according to claim 73 wherein the helix angle of the helical channel on the bore is greater than 50°.

78. (previously presented) A mould according to claim 77 wherein the helix angle of the helical channel on the bore is between 65° and 80°.

79. (previously presented) A method according to claim 53 wherein the tubular conduit is a vascular graft.

80. (previously presented) A mould according to claim 72 wherein the tubular conduit is a vascular graft.